

REMARKS

Claims 17-29 were previously pending in this patent application. Claims 17-29 stand rejected. Herein, Claims 17, 19, 23, 26, and 28 have been amended. Accordingly, after this Amendment and Response After Final action, Claims 17-29 remain pending in this patent application. Further examination and reconsideration in view of the claims, remarks, and arguments set forth below is respectfully requested.

35 U.S.C. Section 103(a) Rejections

Claims 17-20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al., U.S. Patent No. 5,549,716 (hereafter Takahashi) in view of Japanese Patent Publication JP 57-167657 to Hokozaiki et al. (hereafter Hokozaiki). These rejections are respectfully traversed.

Independent Claim 17 recites (as amended):

A universal packaging system for back-end manufacturing of ICs comprising:
a front-of-line portion for receiving a die-strip and for processing said die-strip using a first plurality of processes that function independently of the die size of said die-strip;
a computer control system comprising a memory resident database for storing said die size of said die-strip;
a first part of an end-of-line portion for receiving said die-strip from said front-of-line portion and for processing said die-strip through a second plurality of processes that function independently of said die size; and
a sawing process for receiving said die-strip from said first part and for sawing said die-strip into individual devices based on said die size as communicated from said database, wherein each of said first and second plurality of processes and said sawing process **are adapted to process said individual die-strip at a time in a**

pipeline manner, and wherein said die-strip includes ***a single substrate strip adapted for attaching a plurality of dice thereto***.
(emphasis added)

It is respectfully asserted that the combination of Takahashi and Hokozaiki does not teach, suggest, or motivate the present invention as recited in Independent Claim 17. In particular, Independent Claim 17 recites the limitation "wherein each of said first and second plurality of processes and said sawing process ***are adapted to process said individual die-strip at a time in a pipeline manner***," (emphasis added). In contrast, Takahashi shows in Figure 2 that, before a sawing process (16), an after curing oven (12) and a plating unit (13) process multiple lead frames (2), which are characterized as die-strips on page 2 of the Final Office Action, at a time instead of processing an individual die-strip at a time, as in the invention of Independent Claim 17. Moreover, Hokozaiki fails to teach, suggest, or motivate a universal packaging system having a front-of-line portion and a first part of an end-of-line portion for using first and second plurality of processes, respectively, and a sawing process that are adapted to process an individual die-strip at a time in a pipeline manner, as in the invention of Independent Claim 17.

As described above, the combination of Takahashi and Hokozaiki does not teach, suggest, or motivate the cited claim limitation of Independent Claim 17. Therefore, it is respectfully submitted that Independent Claim 17 is patentable over the combination of Takahashi and Hokozaiki and is in condition for allowance.

Dependent Claims 18-20 are dependent on allowable Independent Claim 17, which is allowable over the combination of Takahashi and Hokozaki. Hence, it is respectfully submitted that Dependent Claims 18-20 are patentable over the combination of Takahashi and Hokozaki for the reasons discussed above.

Claims 17, 20-23, and 26 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Owens, U.S. Patent No. 6,465,743 (hereafter Owens) in view of Japanese Patent Publication JP 57-167657 to Hokozaki et al. (hereafter Hokozaki) and in view of Watanabe et al., U.S. Patent No. 4,674,670 (hereafter Watanabe). These rejections are respectfully traversed.

It is respectfully asserted that the combination of Owens, Hokozaki, and Watanabe does not teach, suggest, or motivate the present invention as recited in Independent Claim 17. In particular, Independent Claim 17 recites the limitation, "wherein said die-strip includes ***a single substrate strip adapted for attaching a plurality of dice thereto***," (emphasis added). In contrast, Owens shows in Figures 1 and 2 that the BGA structure (22) is formed using PCB (11) having multiple BGA substrates (12), where each BGA substrate (12) has one die attach pad (13). Owens fails to teach, suggest, or motivate a die-strip that includes a single substrate strip adapted for attaching a plurality of dice thereto, as in the invention of Independent Claim 17. Further, Hokozaki, and Watanabe does not teach, suggest, or motivate a die-strip that includes a single substrate

strip adapted for attaching a plurality of dice thereto, as in the invention of Independent Claim 17.

As described above, the combination of Owens, Hokozaiki, and Watanabe does not teach, suggest, or motivate the cited claim limitation of Independent Claim 17. Therefore, it is respectfully submitted that Independent Claim 17 is patentable over the combination of Owens, Hokozaiki, and Watanabe and is in condition for allowance.

Dependent Claims 20-23 are dependent on allowable Independent Claim 17, which is allowable over the combination of Owens, Hokozaiki, and Watanabe. Hence, it is respectfully submitted that Dependent Claims 20-23 are patentable over the combination of Owens, Hokozaiki, and Watanabe for the reasons discussed above.

With respect to Independent Claim 26, it is respectfully submitted that Independent Claim 26 recites similar limitations as in Independent Claim 17. In particular, Independent Claim 26 recites the limitation, "***wherein each of said first and second plurality of in-line processes and said sawing process are adapted to process said individual die-strip at a time in a pipeline manner, and wherein said die-strip includes a single substrate strip adapted for attaching a plurality of dice thereto,***" (emphasis added). The combination of Owens, Hokozaiki, and Watanabe does not teach, suggest, or motivate the cited

claim limitation of Independent Claim 26. Therefore, it is respectfully submitted that Independent Claim 26 are patentable over the combination of Owens, Hokozaiki, and Watanabe and are in condition for allowance for reasons discussed in connection with Independent Claim 17.

Claim 24 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al., U.S. Patent No. 5,549,716 (hereafter Takahashi) in view of Japanese Patent Publication JP 57-167657 to Hokozaiki et al. (hereafter Hokozaiki) and further in view of Juskey et al., U.S. Patent No. 5,336,931 (hereafter Juskey). This rejection is respectfully traversed.

Dependent Claim 24 is dependent on allowable Independent Claim 17, which is allowable over the combination of Takahashi and Hokozaiki. Moreover, Juskey fails to teach, suggest, or motivate the limitation, "wherein each of said first and second plurality of processes and said sawing process ***are adapted to process said individual die-strip at a time in a pipeline manner***," (emphasis added), as recited in Independent Claim 17. Hence, it is respectfully submitted that Independent Claim 17 is patentable over the combination of Takahashi, Hokozaiki, and Juskey for the reasons discussed above. Since Dependent Claim 24 depends from Independent Claim 17, it is respectfully submitted that Dependent Claim 24 is patentable over the combination of Takahashi, Hokozaiki, and Juskey for the reasons discussed above.

Claim 25 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al., U.S. Patent No. 5,549,716 (hereafter Takahashi) in view of Japanese Patent Publication JP 57-167657 to Hokoziaki et al. (hereafter Hokoziaki) and further in view of Hayashi, U.S. Patent No. 5,499,717 (hereafter Hayashi). This rejection is respectfully traversed.

Dependent Claim 25 is dependent on allowable Independent Claim 17, which is allowable over the combination of Takahashi and Hokoziaki. Moreover, Hayashi fails to teach, suggest, or motivate the limitation, "wherein each of said first and second plurality of processes and said sawing process ***are adapted to process said individual die-strip at a time in a pipeline manner***," (emphasis added), as recited in Independent Claim 17. Hence, it is respectfully submitted that Independent Claim 17 is patentable over the combination of Takahashi, Hokoziaki, and Hayashi for the reasons discussed above. Since Dependent Claim 25 depends from Independent Claim 17, it is respectfully submitted that Dependent Claim 25 is patentable over the combination of Takahashi, Hokoziaki, and Hayashi for the reasons discussed above.

Claims 18 and 27 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Owens, U.S. Patent No. 6,465,743 (hereafter Owens) in view of Japanese Patent Publication JP 57-167657 to Hokoziaki et al. (hereafter Hokoziaki) in view of Watanabe et al., U.S. Patent No. 4,674,670 (hereafter

Watanabe) and further in view of Takahashi et al., U.S. Patent No. 5,549,716 (hereafter Takahashi). These rejections are respectfully traversed.

Dependent Claims 18 and 27 are dependent on allowable Independent Claims 17 and 26, respectively, which are allowable over the combination of Owens, Hokoziaki, and Watanabe. Moreover, Takahashi fails to teach, suggest, or motivate the limitation, "wherein each of said first and second plurality of processes and said sawing process ***are adapted to process said individual die-strip at a time in a pipeline manner***," (emphasis added), as recited in Independent Claims 17 and 26. Hence, it is respectfully submitted that Independent Claims 17 and 26 are patentable over the combination of Owens, Hokoziaki, Watanabe, and Takahashi for the reasons discussed above. Since Dependent Claims 18 and 27 depend from Independent Claims 17 and 26, respectively, it is respectfully submitted that Dependent Claims 18 and 27 are patentable over the combination of Owens, Hokoziaki, Watanabe, and Takahashi for the reasons discussed above.

Claims 24 and 28 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Owens, U.S. Patent No. 6,465,743 (hereafter Owens) in view of Japanese Patent Publication JP 57-167657 to Hokoziaki et al. (hereafter Hokoziaki) in view of Watanabe et al., U.S. Patent No. 4,674,670 (hereafter Watanabe) and further in view of Juskey et al., U.S. Patent No. 5,336,931 (hereafter Juskey). These rejections are respectfully traversed.

Dependent Claims 24 and 28 are dependent on allowable Independent Claims 17 and 26, respectively, which are allowable over the combination of Owens, Hokozaiki, and Watanabe. Moreover, Juskey fails to teach, suggest, or motivate the limitation, "wherein each of said first and second plurality of processes and said sawing process ***are adapted to process said individual die-strip at a time in a pipeline manner,***" (emphasis added), as recited in Independent Claims 17 and 26. Hence, it is respectfully submitted that Independent Claims 17 and 26 are patentable over the combination of Owens, Hokozaiki, Watanabe, and Juskey for the reasons discussed above. Since Dependent Claims 24 and 28 depend from Independent Claims 17 and 26, respectively, it is respectfully submitted that Dependent Claims 24 and 28 are patentable over the combination of Owens, Hokozaiki, Watanabe, and Juskey for the reasons discussed above.

Claim 29 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Owens, U.S. Patent No. 6,465,743 (hereafter Owens) in view of Japanese Patent Publication JP 57-167657 to Hokozaiki et al. (hereafter Hokozaiki) in view of Watanabe et al., U.S. Patent No. 4,674,670 (hereafter Watanabe) in view of Takahashi et al., U.S. Patent No. 5,549,716 (hereafter Takahashi) and further in view of Hayashi, U.S. Patent No. 5,499,717 (hereafter Hayashi). These rejections are respectfully traversed.

Dependent Claim 29 is dependent on allowable Independent Claims 26, which are allowable over the combination of Owens, Hokozaiki, and Watanabe. Moreover, Takahashi and Hayashi fail to teach, suggest, or motivate the limitation, "wherein each of said first and second plurality of processes and said sawing process ***are adapted to process said individual die-strip at a time in a pipeline manner,***" (emphasis added), as recited in Independent Claim 26. Hence, it is respectfully submitted that Independent Claim 26 is patentable over the combination of Owens, Hokozaiki, Watanabe, Takahashi, and Hayashi for the reasons discussed above. Since Dependent Claim 29 depends from Independent Claim 26, it is respectfully submitted that Dependent Claim 29 is patentable over the combination of Owens, Hokozaiki, Watanabe, Takahashi, and Hayashi for the reasons discussed above.

CONCLUSION

It is respectfully submitted that the above claims, arguments and remarks overcome all rejections and objections. All remaining claims (Claims 17-29) are neither anticipated nor obvious in view of the cited references. For at least the above-presented reasons, it is respectfully submitted that all remaining claims (Claims 17-29) are in condition for allowance.

The Examiner is urged to contact Applicants' undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

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Respectfully submitted,

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